

इंटरनेट

मानक



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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

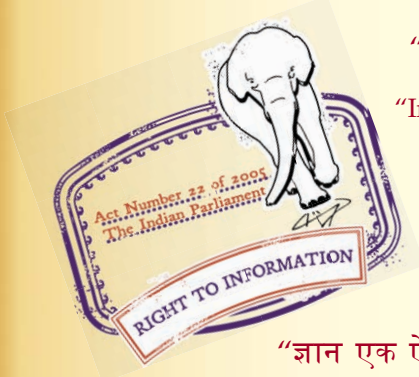
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7222 (1974): Engineers' Ratchet Braces [PGD 6: Earth, Metal And Wood Working Hand Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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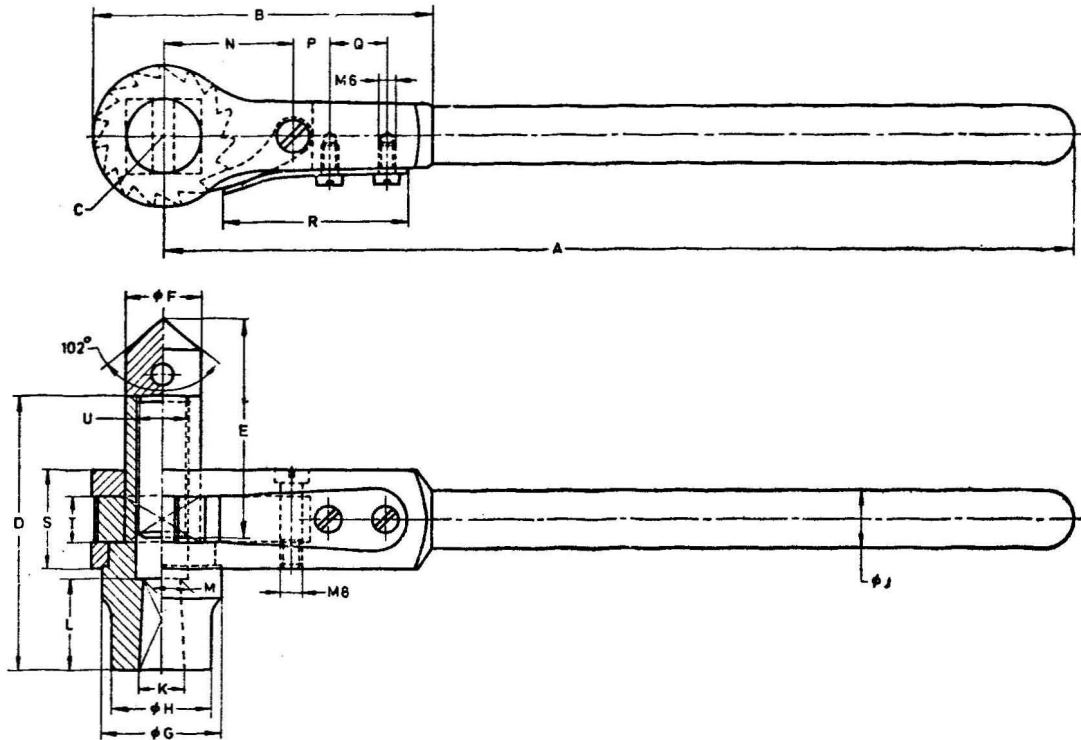




Indian Standard
**SPECIFICATION FOR
ENGINEERS' RATCHET BRACES**

1. Scope — Prescribes requirements for engineers' ratchet braces.

2. Dimensions



All dimensions in millimetres.

Nominal Size A	B	C	D	E	F	G	H	J	K	L	M SQ	N	P	Q	R	S	T	U
250	90	22	75	60	20.5	38	32	19	16	28.5	9.5	35	8	12	35	28	13	SQ14×2* Double Start
350	130	27	105	85	28.5	46	38	22	17.5	35	14	50	14	22	70	38	17.8	SQ20×2* Double Start

*According to IS : 4694-1968 ' Basic dimensions for square threads '.

3. Material — Suitable material conforming to the requirements laid down in 4 and 9. Following are some of the suitable materials for this purpose:

Components

Body with handle, socket, pawl, ratchet gear and feed screw

Spring

Material

T80 of IS : 1570-1961 ' Schedules for wrought steels for general engineering purposes '

Grade 2, C70 of IS : 4072-1967 ' Specification for steel for spring washers '

Adopted 8 February 1974

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Gr 1

4. Hardness

Ratchet gear	550 to 650 HV; case depth 0.25 mm, Min
Spring	450 to 550 HV [see IS : 1501-1968 Method for Vickers hardness test for steel (first revision)]

5. Manufacture, Workmanship and Finish — All component parts of the braces shall be free from cracks, burrs, seams, pits, scales, fins and other forging defects. The braces shall be brightly and smoothly finished and shall work freely without any stiffness or undue play after assembly.

5.1 All metal components with the exception of pawl, bolt for pawl and spring shall be nickel chromium plated in accordance with IS : 1068-1968 ' Electroplated coatings of nickel and chromium on iron and steel '.

6. Designation — An engineers' ratchet brace of nominal size 250 mm shall be designated as follows:

Brace 250 IS : 7222

7. Preservation and Packing — The braces shall be clean, dry and free from all traces of rust and foreign deposition before they are treated with suitable preservative. They shall be packed in accordance with best prevalent trade practice.

8. Sampling — Unless otherwise agreed to between the buyer and the seller, the procedure given in IS : 2500 (Part I)-1963 ' Sampling inspection tables: Part I Inspection by attributes and by count of defects ' , shall be followed for sampling inspection. The sampling plans for various characteristics shall be as specified in 8.1 and 8.2.

8.1 For dimensions, manufacture, workmanship and finish, single sampling plan with inspection level III and acceptable quality level (AQL) of 2.5 percent [see Tables 1 and 2 of IS : 2500 (Part I)-1963] shall be followed.

8.2 For hardness and tests, single sampling plan with inspection level I and acceptable quality level (AQL) of 1 percent [see Tables 1 and 2 of IS : 2500 (Part I)-1963] shall be followed.

9. Tests

9.1 Holding Capability — The socket of the braces shall accept any standard bit having square taper tang. The socket shall then be locked by normal manual operation. It shall not be possible to withdraw the bit manually. The socket shall unlock easily by usual normal torque, with non-mechanical assistance, and it shall be possible to withdraw the bit without hindrance.

9.2 Ratchet Mechanism Test — The standard bit shall be gripped in the socket of the brace, with the outer end of the bit clamped in a bench vice. The head of the brace shall be supported and the handle placed in a horizontal plane. A vertical load of 360 N (\approx 36 kgf) shall be applied at the end of the handle for each ratchet position. No failure, perceptible deformation or damage to brace shall occur in any of the ratchet positions.

10. Marking — Each brace shall be marked with the nominal size, manufacturer's name, initial or recognized trade-mark and the year of manufacture.

10.1 ISI Certification Marking — Details available with the Indian Standards Institution.

EXPLANATORY NOTE

While preparing this standard assistance has been derived from Drawing No. IND/GS/643(C) ' Braces, engineers, ratchet - 250 ' , issued by the Chief Inspectorate of General Stores, Kanpur.